Remarks

The Office Action mailed October 27, 2004 and made final has been carefully reviewed and the foregoing amendment and the following remarks are made in consequence thereof.

Claims 1-19 are now pending in this application, of which claim 5 has been amended. It is respectfully submitted that the pending claims define allowable subject matter.

Claim 5 has been amended to correct a typographical error.

The rejection of claims 1, 2, 4, 6, 7, 8, 10, 11, and 13-17 under 35 U.S.C. § 102(b) as being anticipated by Suzuki (U.S. Patent No. 6,325,680) is respectfully traversed.

Applicants wish to respond to the Response to Argument Section in the Final Office Action wherein it is stated that:

> [C]laim 1 claim[s] a contact, not an electrical connector system which includes a housing. The example embodiment (Fig. 4) in Suzuki does not prevent (Suzuki col. 5, lines 14-20) using the contact (2) with a housing, where retaining the contact can be achieved by elastic restoring force in the biased beam. Structurally, the Suzuki's contact can be used in a housing without the anchoring hole, since the housing is not positively claimed.

See Final Office Action dated October 27, 2004 page 5, paragraph 1. Applicants respectfully submit that this position is not in accord with the governing law, and is an improper analysis under Section 102.

Applicants note the following with respect to the applicable law of anticipation. As explained by the Federal Circuit, a Section 102(b) rejection on the ground of "anticipation" requires a disclosure in a single piece of prior art of each and every limitation of a claimed invention. A finding of anticipation requires that the publication describe all of the elements of

the claims arranged as in the patented device. In other words, to anticipate, a single reference must teach every limitation of the claimed invention.

Thus, considering the proper standard for anticipation, the assertion in the Final Office Action that the Suzuki contact includes no structure that would prevent an anticipating use is only relevant to the extent that Suzuki teaches such a use. As explained below, Suzuki provides no such teaching, and the assertions in the Final Office Action regarding the Suzuki contact being used in a manner that would anticipate is submitted to be speculative and impermissible under the proper standard for Section 102.

Moreover, the Federal Circuit has explained that a patent applicant is free to recite features of an apparatus either structurally or functionally. In determining anticipation of a patent claim, it is improper to disregard functional limitations. Thus, the assertion in the Final Office Action that the housing is not positively claimed is not a basis to disregard clear recitations in the claims with respect to the functional interaction between the recited contact and a housing. Thus, to the extent that the claim rejections are based on the housing not being positively claimed, Applicants submit that the rejections are improper and should be reconsidered.

Considering all the structural and functional recitations of the claims, and further considering the proper standard of anticipation, the Suzuki reference is respectfully submitted to be legally insufficient to support the present Section 102 rejection.

Suzuki describes a connector (1) having a contact (2) and a housing (100). It is respectfully submitted that the contact (2) of Suzuki does not have the corresponding structure and function recited in the present claims.

As described by Suzuki, the contact (2) includes a stopper (46) extending upward from a box-shaped body (4) and a lance (50) extending downward from the body (4). The housing (100) includes a groove (134) which accepts the stopper (46) and an anchoring hole (138) which

receives the lance (50). The stopper (46) prevents over-insertion of the contact (2) into the housing (100), while the lance (50) provides resistance to forces that tend to pull the contact (2) from the housing (100). See Suzuki col. 2, lines 20-58. As clearly seen in Figures 3 and 5, because the lance (50) of the contact (2) is located within the anchoring hole (100) of the housing (100) when the contact is installed, the lance (50) is suspended in air and is incapable of being compressed within the housing (100) to provide a biasing force to retain the contact in position with respect to the housing. Indeed, Suzuki describes that in certain instances, the lances (50) are pulled to the outside of the housing (100) through the anchoring holes (138), and in such instances the lances are stressed in tension rather than placed in compression during use. See Suzuki col. 4, lines 50-55.

While Suzuki column 5, lines 14-20 refers to other potential embodiments and shapes of the connector and contacts, Suzuki nowhere describes or teaches the Suzuki contact being used with another type of housing which would result in the lances being placed in compression in a housing. Furthermore, Suzuki nowhere suggests that placing the contact lances in compression would be advantageous or desirable. The structure and function of the Suzuki contact and the structure and function of the contact of the present invention are much different in purpose and effect.

Claim 1 recites an electrical contact comprising "a body having a first wall and a second wall opposed to said first wall" "a rigid lance integrally formed with said first wall and projecting away from said second wall," and "a deflectable biasing beam integrally formed with said second wall and extending away from said first wall in a direction opposite to said lance, said biasing beam being compressed when said contact is installed into a housing, thereby generating a retention force in a direction transverse to a longitudinal axis of said body and maintaining said lance in a predetermined position within the housing."

For the reasons set forth above, it is respectfully submitted that Suzuki neither describes nor suggests structure and function of the contact recited in claim 1. Claim 1 is patentable over Suzuki.

Claims 2, 4, 6 and 7 depend from independent claim 1, and when the recitations of claims 2, 4, 6 and 7 are considered in combination with the recitations of claim 1, claims 2, 4, 6, and 7 are likewise submitted to be patentable over Suzuki.

Independent claim 10 recites an electrical connector system comprising at least one housing comprising a longitudinal cavity therein and an electrical contact situated within said cavity, "wherein one of said housing and said contact comprises: opposed top and bottom walls; a rigid lance integrally formed with said top wall, said lance in abutting contact with a portion of the other of said housing and said contact; and a deflectable biasing beam extending from said bottom wall and engaging the other of said housing and said contact, a deflection of said biasing beam in a direction transverse to a longitudinal axis of said cavity providing a biasing retention force directed toward said top wall to maintain said contact in position relative to said housing."

Suzuki neither describes nor suggest the connector system of claim 10. The lance (50) of Suzuki's contact is located in an anchoring hole (138) in housing (100) when installed, and is not deflected in a direction toward the top wall of the contact when installed. Rather the lance (50) is suspended in air within the anchoring hole (138) within the housing (100).

Claim 10 is therefore respectfully submitted to be patentable over Suzuki.

Claims 11 and 13-17 depend from independent claim 10, and when the recitations of claims 11 and 13-17 are considered in combination with the recitations of claim 10, claims 11 and 13-17 are likewise submitted to be patentable over Suzuki.

For the reasons set forth above, Applicants respectfully request that the Section 102 rejection of claims 1, 2, 4, 6, 7, 8, 10, 11, and 13-17 be withdrawn.

The rejection of claims 1, 10, 11 and 13-17 under 35 U.S.C. § 103(a) as being unpatentable over Suzuki in view of Chen (U.S. Patent No. 6,042,433) is respectfully traversed.

Chen is cited in the Final Office Action without any specific identification of corresponding elements in the Chen reference and the present claims, and specifically the Final Office Action does not identify the alleged biasing beam in the Chen disclosure. Chen describes a contact (10) having a female contact section (20) with a spring-loaded contact member (30) therein. An upper wall (24) of the female contact section (20) includes a protrusion (40) which is deformed by the contact member (30) when a mating contact (110) is received therein. A bottom wall (21) of the female contact section (20) includes a lance (41). Notably, Chen nowhere describe a housing which is to be used with the contact (10), but rather only states that "the purpose of the lance 41 is to sure the electrical contact 10 in a housing cavity (not shown)." See Chen col. 2, lines 65-68. Thus, as Chen does not describe the housing and how the contact is retained therein, Chen adds nothing to the teaching of Suzuki with respect to the present invention, and neither describes nor suggests the structure and function of the biasing beam recited in claims 1 and 10. Applicants respectfully submit that Chen does not cure the deficiencies of Suzuki with respect to the present invention, and the combination of teachings of the reference does not teach all of the recited elements of the present claims.

The Final Office Action states that the motivation to combine the teaching of Suzuki and Chen is to prevent the biasing beam from deformation if a wire became entangled in the biasing beam, and to avoid using a special removal tool when the contact should be removed from a housing. See Final Office Action dated October 27, 2004 page 3.

With respect to the first motivation to combine, Chen describes that the lance (41) includes an inwardly bent tab (41a) which prevents the lance from deformation if a wire becomes entangled therein. See Chen col. 3, lines 1-2. Thus, this feature is clearly directed to a lance and not to a biasing beam. Applicants note that independent claims 1 and 10 separately recite a rigid lance and a deflectable biasing beam, and the biasing beam provides a retention force to maintain

the contact's position relative to the housing. Chen does not describe a biasing beam which could serve this purpose in the manner recited in claims 1 and 10, and does not describe or suggest the provision of such a biasing beam could solve the problem of deformation of the contact if a wire becomes entangled therein.

With respect to the second motivation to combine, Chen and Suzuki, separately or in combination, do not describe or suggest that special tools are needed to remove the contacts from the associated housings, and further do not describe or suggest that the provision of a biasing beam as recited in claims 1 and 10 would be advantageous to avoid the use of special tools. Applicants note that the motivation to combine must be found in the prior art, and Applicants submit that the cited art is deficient in supplying such motivation.

It is therefore respectfully submitted that Suzuki in view of Chen are not suggestive of the present invention as recited in independent claims 1 and 10, and that claims 1 and 10 are patentable over Suzuki in view of Chen.

Claims 11 and 13-17 depend from independent claim 10, and when the recitations of claims 11 and 14-17 are considered in combination with the recitations of claim 10, claims 11 and 14-17 are likewise submitted to be patentable over Suzuki in view of Chen.

For the reasons set forth above, Applicants respectfully request that the Section 103 rejection of claims 1, 10, 11 and 13-17 be withdrawn.

The objection to claims 3, 5, 9, and 12 as dependent upon rejected base claims is respectfully traversed. For the reasons set forth above, the base claims (claim 1 and 10) of claims 3, 5, 9, and 12 are respectfully submitted to be patentable over the cited art. When the recitations of claims 3, 5, 9, and 12 are considered in combination with the recitations of their base claims, it is likewise submitted that claims 3, 5, 9, and 12 are patentable over the cited art.

Applicants note the allowance of claims 18 and 19 with appreciation.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,

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